

REMARKS/ARGUMENTS

The Office Action mailed March 22, 2006 has been carefully reviewed. Reconsideration of this application, as amended and in view of the following remarks, is respectfully requested. The claims presented for examination are: claims 1-7.

Claim Objection

In numbered paragraph 1 of the Office Action mailed March 22, 2006, Claims 1-3 were objected to because of the phrase in claim 1, line 12, "to said actuator to said tube" appears to be a typographical error.

Applicants have amended claim 1 as follows: "~~to said actuator~~ to said tube." Applicants believe this amendment overcomes the objection to claims 1-3 stated in numbered paragraph 1 of the Office Action mailed March 22, 2006 and that a complete response to this objection has been provided.

35 USC 112, Second Paragraph, Rejection

In numbered paragraph 2 of the Office Action mailed March 22, 2006, claims 1-7 were rejected under 35 U.S.C. §112, second paragraph, because "the valve is described as being connected to the actuator, but in the disclosure, the valve 109 is part of the actuator 102."

Applicants have amended the independent claims 1 and 4 to clarify that, "wherein said actuator (means) includes valving (means) operatively connected to said tube and operatively connected to said piston plunger, said valving (means) transmitting said pneumatic force to said tube and piston plunger."

Applicants believe this amendment overcomes the rejection of claims 1-7 stated in numbered paragraph 2 of the Office Action mailed March 22, 2006 and that a complete response to this objection has been provided.

35 USC 112, First Paragraph, Rejection

In numbered paragraph 3 of the Office Action mailed March 22, 2006, claims 1-7 were rejected under 35 U.S.C. §112, first paragraph, because “there is no description of an actuator connected to a valve, but rather and actuator comprising a valve.”

Applicants have amended the independent claims 1 and 4 to clarify that, “wherein said actuator (means) includes valving (means) operatively connected to said tube and operatively connected to said piston plunger, said valving transmitting said pneumatic force to said tube and piston plunger.”

Applicants believe this amendment overcomes the rejection of claims 1-7 stated in numbered paragraph 3 of the Office Action mailed March 22, 2006 and that a complete response to this objection has been provided.

Drawings Objection

In numbered paragraph 4 of the Office Action mailed March 22, 2006, the drawings were object to because the drawings did not show the original claim element “the valve connected to the actuator.”

Applicants have amended the claims so that the amended claims no longer claim, “the valve connected to the actuator.” In the amended claims the “actuator (means) includes valving (means) operatively connected to said tube and operatively connected to said piston plunger.” The features of the amended claims are shown in the drawings.

Applicants believe this amendment overcomes the objection to the drawings stated in numbered paragraph 4 of the Office Action mailed March 22, 2006 and that a complete response to this objection has been provided.

Applicants' Claimed Invention

Applicants' claimed invention is illustrated in Applicants' original drawing FIG. 1 reproduced below.

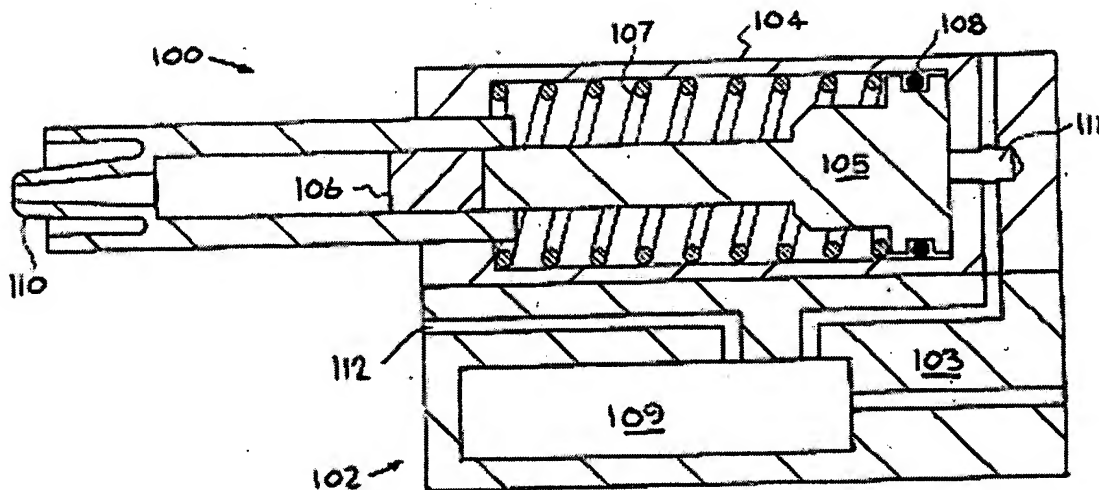


FIG. 1

Portions of Applicants' original specification describe FIG. 1, as follows:

[0016] Referring now to FIG. 1, a pneumatically actuated dispensing system constructed in accordance with the presenting invention is illustrated. The dispensing system is designated generally by the reference numeral 100. The dispensing system 100 addresses the increasing need for systems that perform biological or chemical processing and/or analysis. These systems can be complex and can require the dispensing or manipulation of several different liquids or gases for a given process and/or analysis. The dispensing system 100 has uses in systems for performing biological or chemical analysis. Examples include bio-warfare terrorism agent detection, automated laboratory biological and chemical analysis, automated laboratory biological processes, and automated laboratory chemical processes. There is also a growing need for compact systems for automated biological or chemical processes performed in the laboratory and industry. The

dispensing system 100 addresses the increasing need for compact systems that are portable or remotely operated and perform biological or chemical processing and/or analysis.

[0017] The dispensing system 100 comprises a dispensing component 101, an actuator component 102, and a valving component 103. These components will be described in greater detail below. The dispensing system 100 provides a precise amount of fluid for biological or chemical processing and/or analysis. The dispensing system 100 can be used as an individual dispensing pump to dispense one fluid or gas or can be arranged in an array of dispensing pumps to dispense several or many different liquids or gases. Each individual dispensing system can dispense an appropriate preselected precise volume of liquid or gas.

[0018] The Dispensing Component 101--In its simplest form the dispensing component 101 comprises a tube 104 with a rod or plunger 106 and piston 105 that slide down the inside diameter of the tube 104. A spring 107 biases the piston with its associated plunger upward in the tube 104. An "O" ring 108 provides a sliding seal between the piston 105 and the tube 104. The piston 105 is propelled downward by increasing the pressure on one side of the piston 105 with respect to the spring force on the other. This is accomplished by the introduction of pneumatic pressure to one side of the piston 105 through the chamber 111. The piston 105 is attached to the plunger 106 of the dispensing component 101 by a rod or other component thereby creating movement of the plunger 106 with the piston 105. A connection 110 on the tube 104 provides the means for dispensing fluids or gases to the desired unit in the particular process and/or analysis involved. The connection 110 transfers a precise amount of fluid from the tube 104 for biological or chemical processing and/or analysis.

[0022] The Actuator Component 102--The actuator component 102 comprises a solenoid valve 109 with an internal solenoid piston sliding in a cylinder. The solenoid piston has a gas tight sliding seal to the walls of the cylinder. The solenoid piston can be either pneumatically powered in both directions by switching the pressure from one side of the solenoid piston to the other and venting the opposite side. It can also be pneumatically powered in one direction and returned by the force of a mechanical spring. A source of pneumatic pressure is introduced through the passage connected to the solenoid valve 109.

35 USC 102 Rejection – Gordon Reference

In numbered paragraph 9 of the Office Action mailed March 22, 2006, claims 1-2 and 4-6 were rejected under 35 U.S.C. §102(b) as being anticipated by the Gordon reference (US Patent No. 5,540,889). FIG. 1A of the Gordon reference is reproduced and described below.

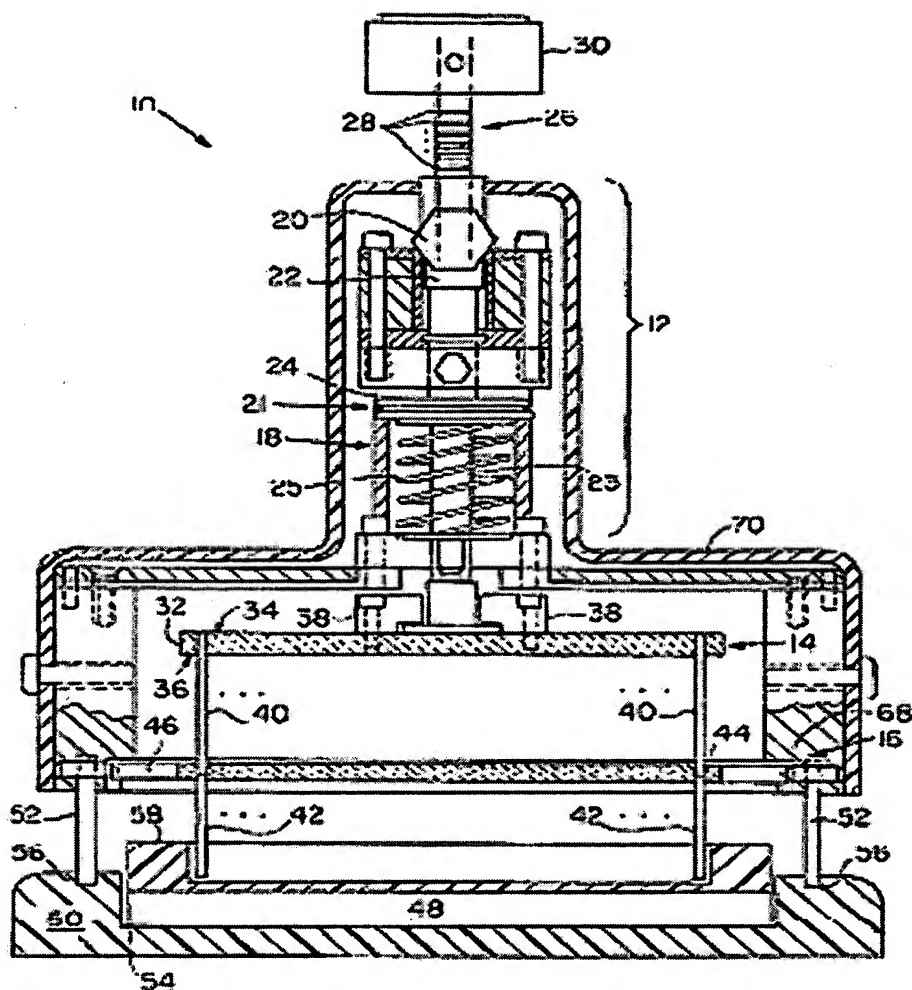


FIG. 1A

In the Gordon reference shown in FIG. 1A, "a pipetter system 10 includes a main shaft area 12, an upper plate assembly 14 and a lower plate assembly 16. The main shaft area 12 is formed of an actuator 18 and a repositionable stop 24. As described below in greater detail, the actuator 18 is coupled to the upper plate assembly 14 and moves the upper plate assembly 14 relative to the lower plate assembly 16, the lower plate assembly 16 remaining stationary. In particular, the actuator 18 moves the upper plate assembly 14 through planes parallel with the lower plate assembly 16. Movement of the upper plate assembly 14 away from

the lower plate assembly 16 collects sample fluid in a syringe-like drawing manner through a plurality of pipettes in parallel (i.e., simultaneously) as described below. Movement of the upper plate assembly 14 closer to the lower plate assembly discharges collected sample fluid as heretofore unachieved by the prior art and mentioned above.

In moving upward in FIG. 1a, the pneumatic cylinder 18 stops at the repositionable stop 24. The repositionable stop is formed of a fine pitch screw 26 which has markings 28 along its shaft. The user tightens or loosens the screw 26 until a desired marking 28 on the screw shaft is shown. The markings 28 provide an indication of the amount of sample liquid which will be drawn by the actuator 18 stopping at that position of stop 24. Preferably, the markings 28 provide 5 ml increments between a total range of about 20 ml to about 50 ml (for example) to be obtained. In addition, the top or handle portion 30 of the screw 26 provides pointers 31 for indicating fractions of a turn (i.e., less than a full revolution) of the screw 26. Thus, the handle pointers 31 in combination with the screw shaft markings 28 provide an indication to the user of the amount of sample fluid which will be obtained upon the actuator 18 operating to the position set by the repositionable stop 24."

Gordon Reference Does Not Anticipate Amended Claims 1-2 and 4-6

Applicant has amended independent claims 1 and 4 to change the preamble from a "comprising" preamble to a "consisting of" preamble.

A "comprising" preamble is what is known as an open term. In effect, comprising is a shorthand way of saying "including the following elements but not excluding others." For example, a combination "comprising A + B" covers the combination A + B + C.

On the other hand, a “consisting of” preamble is a closed term. A combination “consisting of A + B” does not cover the combination A + B + C.

Applicants’ invention defined by amended claims 1 and 4 provides a specific combination of elements “consisting of” the specific combination of elements enumerated in amended claims 1 and 4. This specific combination of elements is not found in the cited Gordon reference

The Gordon reference both (1) fails to include elements of Applicants’ amended claims 1 and 4 and (2) includes elements in addition to the specific combination of elements of Applicants’ amended claims 1 and 4.

The standard for a 35 U.S.C. §102 rejection is stated in *RCA Corp. v. Applied Digital Systems, Inc*, 221PQ 385, 388 (d. Cir. 1984) “Anticipation is established only when a single prior art reference discloses, either expressly or under principles of inherency, each and every element of a claimed invention.”

Applicant points out that the following elements of Applicants’ amended claims 1 and 4 are not found in the Gordon reference:

“an actuator (means) operatively connected to said tube and piston plunger for providing said pneumatic force to said piston plunger, wherein said actuator includes valving (means) operatively connected to said tube and operatively connected to said piston plunger, said valving transmitting said pneumatic force to said tube and piston plunger.”

Since the elements described above are not found in the Gordon reference, the Gordon reference would not support a 35 U.S.C. §102(b) rejection.

The Gordon reference includes many elements in addition to the specific combination of elements of Applicants’ amended claims 1 and 4. For example, the following elements of the Gordon reference are not found in Applicants amended independent claims 1 and 4:

“an upper plate assembly 14,” and

"a lower plate assembly 16," and

"a repositionable stop 24," and

"repositionable stop is formed of a fine pitch screw 26," and

"desired marking 28 on the screw shaft."

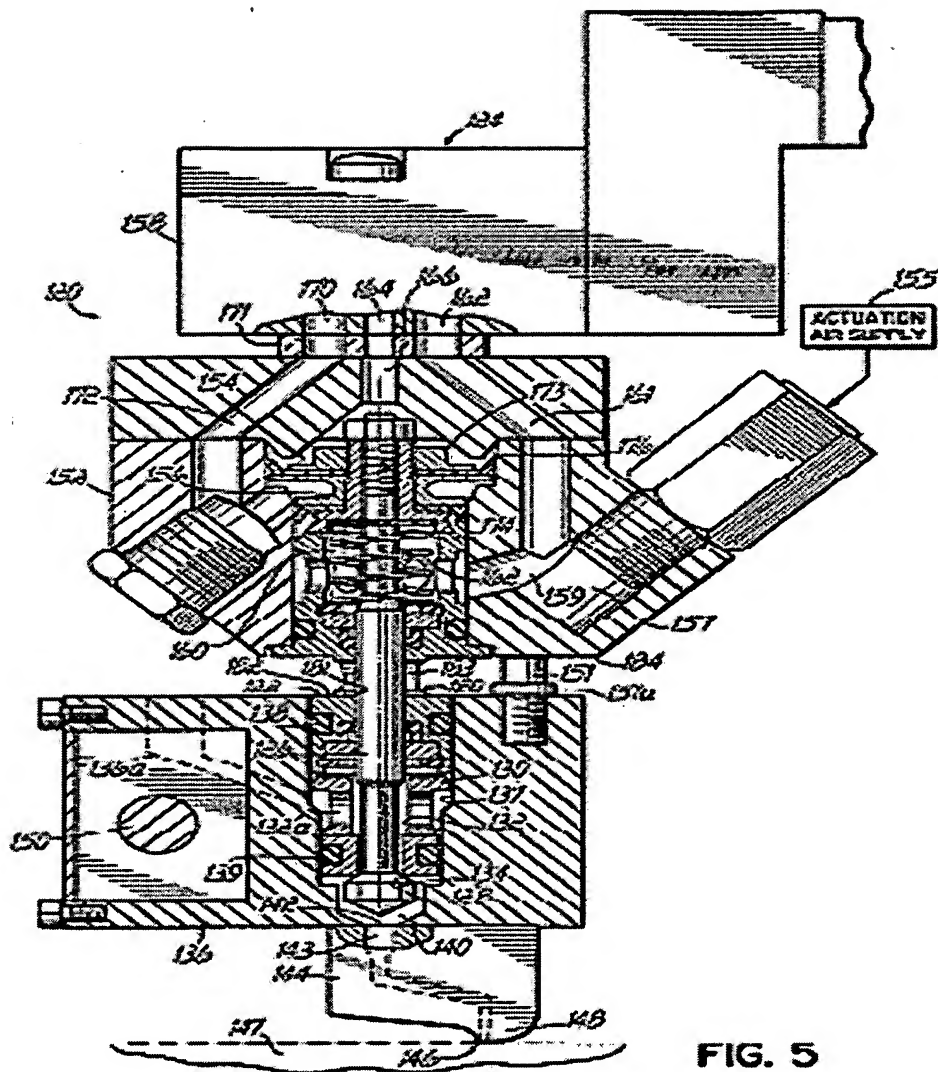
Since the Gordon reference includes many elements in addition to the specific combination of elements of Applicants' amended claims 1 and 4, the Gordon reference would not support a 35 U.S.C. §102(b) rejection.

35 USC 103 Rejection – Gordon Reference

In numbered paragraph 10 of the Office Action mailed March 22, 2006, claims 3 and 7 were rejected under 35 U.S.C. §103(a) as being unpatentable over the Gordon reference (US Patent No. 5,540,889). Applicants have cancelled claims 3 and 7.

35 USC 102 Rejection – Saidman Reference

In numbered paragraph 11 of the Office Action mailed March 22, 2006, claims 1-2 and 4-6 were rejected under 35 U.S.C. §102(b) as being anticipated by the Saidman reference (US Patent Application No. 2004/0076551). FIG. 5 of the Saidman reference is reproduced and described below.



The Saidman reference shows:

[0002] The present invention generally relates to liquid dispensing and, more particularly, to liquid dispensing modules for dispensing heated liquids onto a surface of a substrate.

[0059] With reference to FIGS. 5 and 6, a liquid dispensing module 120 constructed in accordance with the principles of the present invention includes a dispenser body 122 and an actuator 124. The liquid dispensing module 120 is specifically adapted for dispensing a heated liquid, such as a molten thermoplastic hot melt adhesive. In particular, the liquid dispensing module 120 is configured to be actuated between an open position (FIG. 6), in which heated liquid is dispensed, and a closed position (FIG. 5), in which the flow of heated liquid is discontinued. The dispenser body 122 is substantially similar to the dispenser body disclosed in U.S. Pat. No. 6, 164,568, which

was incorporated by reference above in its entirety, and operates in a substantially similar manner for cycling between the open and closed positions of the liquid dispensing module 120.

[0060] The dispenser body 122 includes an elongated valve stem 126, a valve plug 128 mounted at one end of the valve stem 126, and a flow-directing insert 130 having a supply channel 132 and a valve seat 134. The flow-directing insert 130, a portion of the valve stem 126, and the valve plug 128 are received within a stepped-diameter bore 137 formed within a liquid distribution manifold 136 having a flow passageway 136a for directing a flow of heated liquid to the supply channel 132. The valve stem 126 and valve plug 128 are linearly movable relative to the valve seat 134 for providing an open position (FIG. 6) by creating an annular opening between the plug 128 and seat 134 and a closed position (FIG. 7) by engaging the plug 128 with seat 134. The flow-directing insert 130 includes a pair of seals 138 and 139 positioned in respective ones of a spaced-apart pair of circumferential glands. An inlet 132a of the supply channel 132 is fluidically coupled with flow passageway 136a. The supply channel 132 includes a chamber 140 into which the valve plug 128 extends and an outlet 142 through which heated liquid flows into a passageway 143 in a nozzle 144. The nozzle 144 has an elongated discharge outlet 146 formed in a mouthpiece 148. The discharge outlet 146 is fluidically coupled with passageway 143 for dispensing the heated liquid onto a substrate 147.

[0061] The liquid distribution manifold 136 includes a heater 150 that converts electrical energy into heat energy for heating manifold 136. The heater 150 is controlled by a heater controller (not shown), which may rely on feedback from a temperature sensor (not shown) for regulating the electrical power provided to heater 150. The liquid distribution manifold 136 also heats the dispenser body 122 by heat transfer so that heated liquid within body 122 is maintained at a desired application temperature. A stud 151 provides an additional mechanical interconnection with liquid distribution manifold 128 for securing the actuator 124 to the manifold 136.

[0062] With continued reference to FIGS. 5 and 6, the actuator 124 includes a two-piece air piston housing 152, an air cavity 154, an air piston 156 attached to an end of the valve stem 126 opposite the end carrying valve plug 128, and a solenoid valve 158. The air piston housing 152 has an inlet passageway 157 that is adapted to be fluidically coupled with an actuation air supply 155. The inlet passageway 157 includes a first channel 159 leading to an air chamber 160 of an air spring return and a second channel 161 that leads to a supply duct 162 of the solenoid valve 158. The air chamber 160 surrounds a portion of the valve stem 126. A biasing element 162, illustrated in FIG. 5 as a compression coil spring, is positioned in the air chamber 160 and helically surrounds the portion of the valve stem 126 in chamber 160.

[0063] The solenoid valve 158 has an access duct 164 in fluid communication with an air passageway 166 in the air piston housing 152. The air passageway 166 leads to air cavity

154, which has a variable air volume that is a function of the position of the air piston 156. The solenoid valve 158 also has an exhaust duct 170 which is fluidically coupled with an exhaust passageway 172 in the air piston housing 152. When the access duct 164 is in fluid communication with the first channel 159 of the inlet passageway 157, pressurized actuation air is provided through the air passageway 166 to the air cavity 154. When the access duct 164 is in fluid communication with the exhaust duct 170, pressurized actuation air is exhausted from the air cavity 154 via air passageway 166. When the air pressure in the air cavity 154 is at 0 p.s. i.a., the liquid dispensing module 120 is in a closed position and the air cavity 154 has its minimum air cavity volume. Solenoid valve 158 is similar in construction to solenoid valve 71.

[0064] With continued reference to FIGS. 5 and 6, the air cavity 154 has an initial air volume, including the volume of access duct 164 and air passageway 166, when the liquid dispensing valve 120 is in the closed position. Solenoid valve 158 is attached to the air piston housing 152. A thin intervening thermal-insulating barrier 171 is positioned between the air piston housing 152 and the solenoid valve 158. Thermal-insulating barrier 171 provides a seal that prevents leakage of actuation air between the air piston housing 152 and the solenoid valve 158. Passageways are provided in thermal-insulating barrier 171 that join second channel 161 with supply duct 162, access duct 164 with air passageway 166, and exhaust duct 170 with exhaust passageway 172. At least partially as a result of the direct attachment between the solenoid valve 158 and the air piston housing 152, the initial air volume of the air cavity 154 may be reduced to a value less than about 2170 mm³ and, in particular, less than about 1500 mm³. The reduction in the initial air volume of the air cavity 154 reduces the time required to pressurize the air cavity 154 to an air pressure effective to overcome stiction and initiate movement of the air piston 156.

[0065] The air piston 156 has a first face 173 of a first effective surface area that is exposed to the environment within the air cavity 154. When pressurized air is applied to the air cavity 154, an actuation force is applied to the air piston 156 given by the product of the air pressure within air cavity 154 and the first effective area of the first face 173. The air piston 156 has a second face 174 of a second effective area that is exposed to the pressurized air within the air chamber 160. The effective area of the second face 174 is significantly less than the effective area of the first face 173 so that the force applied to first face 173 exceeds the force applied to the second face 174 as the air pressure in air cavity 154 increases. As a result, the air piston 156 moves when the solenoid valve 158 applies a sufficient air pressure of actuation air to the air cavity 154. The air piston 156 has a first seal 176 that seals the first face 173 with the inner wall of the air cavity 154 and a second seal 177 that seals the second face 174 with the inner wall of the air chamber 160.

[0066] With continued reference to FIGS. 5 and 6, a spacer 180 separates the air piston housing 152 from the dispenser body 122 and the liquid distribution manifold 136. Valve

stem 126 projects through a central throughbore 181 in spacer 180. A throughbore 183 extends through transversely through the thickness of the spacer 180 and is aligned orthogonal to the central throughbore 181. The presence of throughbore 183 reduces the effective cross-sectional area of the spacer 180 averaged over the distance between a face 182 of the dispenser body 122 and a confronting face 184 of air piston housing 152, which is substantially equal to the length of the spacer 180. The average effective cross-sectional area of the spacer 180 is less than the surface area of either face 182 or face 184, which would otherwise be in abutting contact if spacer 180 were not intervening. The reduced effective cross-sectional area of the spacer 180 contributes to reducing the conduction of heat from face 182 to face 184. The spacer 180 cooperates with the thermal-insulating barrier 171 to thermally isolate the solenoid valve 158 against the transfer of heat from the liquid distribution manifold 136 and the dispenser body 122.

Saidman Reference Does Not Anticipate Amended Claims 1-2 and 4-6

Applicant has amended independent claims 1 and 4 to change the preamble from a “comprising” preamble to a “consisting of” preamble.

A “comprising” preamble is what is known as an open term. In effect, comprising is a shorthand way of saying “including the following elements but not excluding others.” For example, a combination “comprising A + B” covers the combination A + B + C.

On the other hand, a “consisting of” preamble is a closed term. A combination “consisting of A + B” does not cover the combination A + B + C.

Applicants’ invention defined by amended claims 1 and 4 provides a specific combination of elements “consisting of” the specific combination of elements enumerated in amended claims 1 and 4. This specific combination of elements is not found in the cited Saidman reference

The Saidman reference both (1) fails to include elements of Applicants’ amended claims 1 and 4 and (2) includes elements in addition to the specific combination of elements of Applicants’ amended claims 1 and 4.

The standard for a 35 U.S.C. §102 rejection is stated in *RCA Corp. v. Applied Digital Systems, Inc*, 221PQ 385, 388 (d. Cir. 1984) “Anticipation is established only when a single prior art reference discloses, either expressly or under

principles of inherency, each and every element of a claimed invention.”

Applicant points out that the following elements of Applicants’ amended claims

1 and 4 are not found in the Saidman reference:

“An apparatus for delivering a predetermined amount of a fluid for biological or chemical processing and/or analysis, consisting of:”

“a tube; a piston plunger positioned to slide inside of said tube for dispensing said predetermined amount of a fluid for biological or chemical processing and/or analysis, said piston plunger responsive to a pneumatic force,” or

“a connector operatively connected to said tube for transferring said predetermined amount of a fluid for biological or chemical processing and/or analysis,” or

“an actuator operatively connected to said tube and piston plunger for providing said pneumatic force to said piston plunger; wherein said actuator includes valving operatively connected to said tube and operatively connected to said piston plunger, said valving transmitting said pneumatic force to said tube and piston plunger.”

Since the elements described above are not found in the Saidman reference, the Saidman reference would not support a 35 U.S.C. §102(b) rejection.

The Saidman reference includes many elements in addition to the specific combination of elements of Applicants’ amended claims 1 and 4. For example, the following elements of the Saidman reference are not found in Applicants amended independent claims 1 and 4:

“liquid dispensing modules for dispensing heated liquids onto a surface of a substrate,” or

“a liquid distribution manifold 136 having a flow passageway 136a for directing a flow of heated liquid to the supply channel 132,” or

“supply channel 132 includes a chamber 140 into which the valve plug 128 extends and an outlet 142 through which heated liquid flows into a passageway 143 in a nozzle 144,” or

“nozzle 144 has an elongated discharge outlet 146 formed in a mouthpiece 148,” or

“passageway 143 for dispensing the heated liquid onto a substrate 147,” or

“liquid distribution manifold 136 includes a heater 150,” or

“heater 150 is controlled by a heater controller,” or

“a temperature sensor for regulating the electrical power provided to heater 150,” or

“stud 151 provides an additional mechanical interconnection with liquid distribution manifold 128 for securing the actuator 124 to the manifold 136,” or

“a two-piece air piston housing 152, an air cavity 154, an air piston 156,” or

“solenoid valve 158 has an access duct 164 in fluid communication with an air passageway 166 in the air piston housing 152,” or

“air passageway 166 leads to air cavity 154,” or

“first channel 159 of the inlet passageway 157, pressurized actuation air is provided through the air passageway 166 to the air cavity 154,” or

“Solenoid valve 158 is similar in construction to solenoid valve 71,” or

“thin intervening thermal-insulating barrier 171 is positioned between the air piston housing 152 and the solenoid valve 158,” or

“Passageways are provided in thermal- insulating barrier 171 that join second channel 161 with supply duct 162, access duct

164 with air passageway 166, and exhaust duct 170 with exhaust passageway 172,” or

“air piston 156 has a first face 173 of a first effective surface area that is exposed to the environment within the air cavity 154.”

Since the Saidman reference includes many elements in addition to the specific combination of elements of Applicants’ amended claims 1 and 4, the Saidman reference would not support a 35 U.S.C. §102(b) rejection.

35 USC 103 Rejection – Saidman Reference

In numbered paragraph 12 of the Office Action mailed March 22, 2006, claims 3 and 7 were rejected under 35 U.S.C. §103(a) as being unpatentable over the Saidman reference (US Patent Application No. 2004/0076551). Applicants have cancelled claims 3 and 7.

35 USC 102 Rejection – Bienert Reference

In numbered paragraph 13 of the Office Action mailed March 22, 2006, claims 1-7 were rejected under 35 U.S.C. §102(b) as being anticipated by the Bienert reference (US Patent Application No. 2001/0019845). Applicants have cancelled claims 3 and 7.

FIG. 3 of the Bienert reference is reproduced and described below.

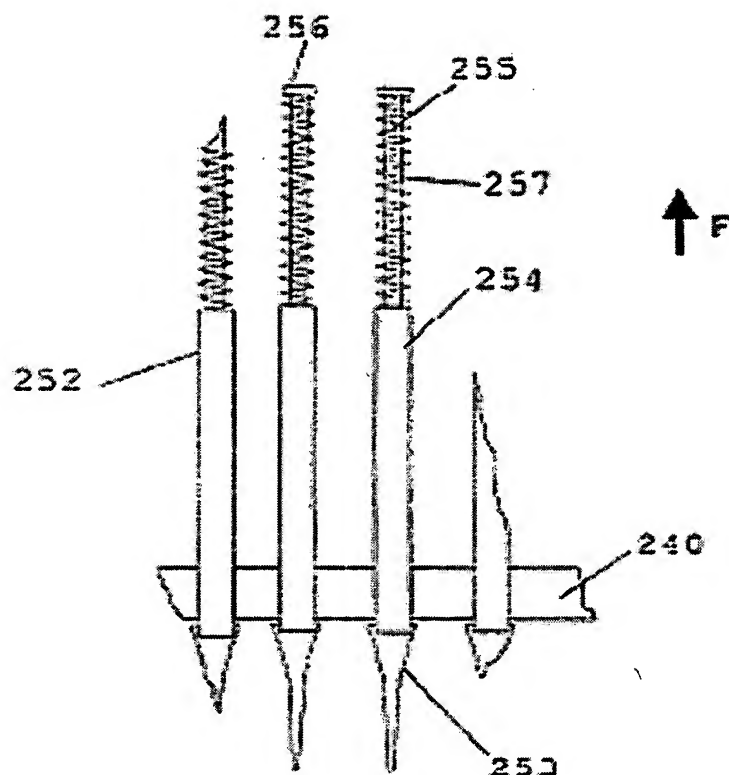


Fig. 3

The Bienert reference shows:

[0046] In FIG. 3 partial views of details relating to how the micropipettes are attached in the mounting block 300 are shown. Each micropipette 252 consists of a cylinder 254 with the pipette tip 253 at one end and the activating pin 255 (end of the pipette piston) at the other end. Inside of the cylinder 254, the pipette piston is retracted by a piston spring between the upper cylinder end and lower piston end. A pin spring 257 slightly biased in the basic position is provided between the end support 256 of the pipette piston 255 and the cylinder 254. In the embodiment of the invention shown on FIG. 3, the cylinders 254 are securely attached to the carrier plate 240. In the basic position, the pipette piston 255 is completely retracted by spring force (arrow F), thereby providing for a large pipetting volume in the cylinder. When the accompanying actuating element is actuated (see FIG. 2), a pneumatic cylinder of the actuating matrix 210 presses an actuating needle 220 to the end support 256. The pneumatic cylinder works against the spring force of the pin spring 257 and the internal piston spring, and pushes the pipette piston 255 toward the pipette tip. When removing the working pressure from the pneumatic cylinder, the pipette piston 255 returns again under the action of to the pin and piston springs 257. When the metering

head is used as intended, these movements of the pipetting piston 255 between the basic state and the tensioned state are used for taking a sample from a sample container or effecting the corresponding sample release.

Bienert Reference Does Not Anticipate Amended Claims 17

Applicant has amended independent claims 1 and 4 to change the preamble from a "comprising" preamble to a "consisting of" preamble.

A "comprising" preamble is what is known as an open term. In effect, comprising is a shorthand way of saying "including the following elements but not excluding others." For example, a combination "comprising A + B" covers the combination A + B + C.

On the other hand, a "consisting of" preamble is a closed term. A combination "consisting of A + B" does not cover the combination A + B + C.

Applicants' invention defined by amended claims 1 and 4 provides a specific combination of elements "consisting of" the specific combination of elements enumerated in amended claims 1 and 4. This specific combination of elements is not found in the cited Bienert reference

The Bienert reference both (1) fails to include elements of Applicants' amended claims 1 and 4 and (2) includes elements in addition to the specific combination of elements of Applicants' amended claims 1 and 4.

The standard for a 35 U.S.C. §102 rejection is stated in *RCA Corp. v. Applied Digital Systems, Inc.*, 221PQ 385, 388 (d. Cir. 1984) "Anticipation is established only when a single prior art reference discloses, either expressly or under principles of inherency, each and every element of a claimed invention."

Applicant points out that the following elements of Applicants' amended claims 1 and 4 are not found in the Bienert reference:

"An apparatus for delivering a predetermined amount of a fluid for biological or chemical processing and/or analysis, consisting of:"

"a tube; a piston plunger positioned to slide inside of said tube for dispensing said predetermined amount of a fluid for biological or chemical processing and/or analysis, said piston plunger responsive to a pneumatic force," or

"a connector operatively connected to said tube for transferring said predetermined amount of a fluid for biological or chemical processing and/or analysis," or

"an actuator operatively connected to said tube and piston plunger for providing said pneumatic force to said piston plunger; wherein said actuator includes valving operatively connected to said tube and operatively connected to said piston plunger, said valving transmitting said pneumatic force to said tube and piston plunger."

Since the elements described above are not found in the Bienert reference, the Bienert reference would not support a 35 U.S.C. §102(b) rejection.

The Bienert reference includes many elements in addition to the specific combination of elements of Applicants' amended claims 1 and 4. For example, the following elements of the Bienert reference are not found in Applicants amended independent claims 1 and 4:

"Each micropipette 252," or

"cylinder 254 with the pipette tip 253 at one end," or

"activating pin 255," or

"the cylinders 254 are securely attached to the carrier plate 240,"
or

"a pneumatic cylinder of the actuating matrix 210 presses an actuating needle 220 to the end support 256," or

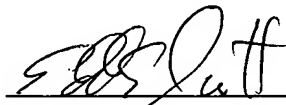
"metering head."

Since the Bienert reference includes many elements in addition to the specific combination of elements of Applicants' amended claims 1 and 4, the Bienert reference would not support a 35 U.S.C. §102(b) rejection.

SUMMARY

The undersigned respectfully submits that, in view of the foregoing amendments and the foregoing remarks, the rejections of the claims raised in the Office Action dated March 22, 2006 have been fully addressed and overcome, and the present application is believed to be in condition for allowance. It is respectfully requested that this application be reconsidered, that the claims be allowed, and that this case be passed to issue. If it is believed that a telephone conversation would expedite the prosecution of the present application, or clarify matters with regard to its allowance, the Examiner is invited to call the undersigned attorney at (925) 424-6897.

Respectfully submitted,



Eddie E. Scott
Attorney for Applicant
Registration No. 25,220
Tel. No. (925) 424-6897

Livermore, California

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